

Microfluidic Pump Driven by Thermoacoustic Effect

Abstract

5 A microfluidic pump driven by thermoacoustic effect is mainly
composed of a thermoacoustic device, a fluid-storing tank, and at least one
microchannel, etc., wherein the thermoacoustic device may convert
thermal energy into acoustic energy. Pressure fluctuation and velocity
fluctuation with high frequency are generated by the acoustic wave. .
10 According to the high amplitude pressure fluctuation, the microfluid with
high moving velocity emitted through microchannels. Since there is no
movable part arranged in the thermo-acoustic generator. In the meantime,
it indirectly drives the working fluid located in the fluid-storing tank by the
manner of indirect contact. So the present invention may be applied in the
15 non-conductive fluid so as to greatly extend its field of application.
Moreover, the characteristics of the fluid won't be influenced by the
heating process as well. The present invention is indeed a
microfluid-driving device that has inventiveness and high application
value.

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